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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,168	09/18/2001	Heiko Maas	213301US0PCT	8981
22850	7590	11/02/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			PRICE, ELVIS O	
			ART UNIT	PAPER NUMBER
			1621	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/926,168

**Applicant(s)**

MAAS ET AL.

**Examiner**

Elvis O. Price

**Art Unit**

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 18 August 2004.
- 2a)  This action is **FINAL**.                      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1,2,4,27,28 and 32-49 is/are pending in the application.  
4a) Of the above claim(s) 35-46,48 and 49 is/are withdrawn from consideration.
- 5)  Claim(s) 32-34 and 47 is/are allowed.
- 6)  Claim(s) 1,2,4 and 28 is/are rejected.
- 7)  Claim(s) 27 is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \*    c)  None of:
1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### DETAILED ACTION

1. Claims 1, 2, 4, 27, 28 and 32-49 are pending in the application. Newly submitted claims 32-46, and 48-49 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: New claims 35-46, and 48-49 are drawn to a group of inventions distinct from the inventions of claims 1, 2, 4, 27, 28, 32-34 and 47. These two separate groups of inventions are distinct each from the other because there is no patentable co-action between them and a reference anticipating or rendering obvious one group of inventions will not necessary anticipate or render obvious the other group of inventions. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 32-46 and 48-49 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engelbrecht et al. {US Pat. 3,315,009} in view of Singleton {US Pat. 5,780,694}.

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Applicants claim, in brief, a process comprising dimerizing an olefin mixture to form a dimerized product, and derivatizing the dimerized product to form a mixture of primary alcohols, wherein the olefin mixture comprises from 30 to 80% by weight of linear hexane isomers and at least 60% by weight of hexane isomers overall, and wherein the dimerization is carried out with heterogeneous catalyst.

Engelbrecht et al. teach a process comprising dimerizing an olefin mixture to form a dimerized product, wherein the olefin mixture comprises at least 60% by weight of hexane isomers overall, and wherein the dimerization is carried out with heterogeneous catalyst (see Example 1). The difference between the presently claimed invention and what is taught by the Engelbrecht et al. reference is that the Engelbrecht et al. reference does not teach derivatizing the dimerized product to form a mixture of primary alcohols.

Singleton teaches primary alcohol compositions, obtained by dimerizing an olefin mixture followed by subsequent conversion to the primary alcohol, that are converted to anionic or nonionic surfactants, which are either sulfated or oxyalkylated (the alkoxylation product) (see Col. 3, lines 37-45; Col. 11, lines 14-21 and Col. 12, lines 6-60).

It would have been *prima facie* obvious to one having ordinary skill in the art, in view of the Engelbrecht et al. and Singleton references, to prepare surfactant alcohols as presently claimed because Engelbrecht et al. teach the dimerization of an olefin mixture comprised of at least 60% by weight of hexane isomers and Singleton teaches that primary alcohol compositions can be obtained by derivatizing a dimerized product

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(obtained by dimerizing an olefin mixture) to a primary alcohol mixture, which can then be converted to anionic or nonionic surfactants by either sulfating or alkoxyating the said primary alcohol composition.

One having ordinary skill in the art, in view of the teachings of the Engelbrecht et al. and Singleton references, would have been motivated to convert olefin mixtures taught by Engelbrecht et al. to a primary alcohol composition before alkoxyating the alcohol composition so as to prepare nonionic surfactants. One having ordinary skill in the art, desiring to prepare biodegradable surfactants, would have been motivated to use the Engelbrecht et al. olefin mixture because the olefin mixture taught by Engelbrecht et al. is recognized in the art as a biodegradable entity (Col. 1, lines 1-34 and Col. 6, lines 62-69). Therefore, the presently claimed invention would have been obvious to one having ordinary skill in the art.

### ***Response to Arguments***

Applicants' arguments, filed 8/18/04, have been fully considered but they are not persuasive.

Applicants' arguments with regard to the Threlkel reference are moot because the Threlkel reference was not used as a reference in the 35 USC 103(a) rejection, issued in the previous office action.

Applicants argue that the Singleton reference carries out the dimerization using, preferably, homogeneous catalysts and Engelbrecht carries out the dimerization using heterogeneous catalyst and since the two catalysis conditions (heterogeneous catalysis and homogeneous catalysis) are mutually exclusive of each other, those having

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ordinary skill in the art would not have motivation or a reasonable expectation of success in combining the homogeneous process of Singleton with the heterogeneous process of Engelbrecht et al..

This argument is not convincing because the Examiner has applied the Singleton reference not for the dimerization process step that is taught but rather for its teachings of derivatizing a dimerized product into a primary alcohol composition, which may be further derivatized into alkoxylated or sulfated products.

***Allowable Subject Matter***

Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The subject matter of claims 27, 32-34 and 47 are unobvious over the prior art of record because the prior art of record does not teach or suggest the process as defined by claim 32, wherein the dimerized product has a degree of branching of between 2 and 3.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

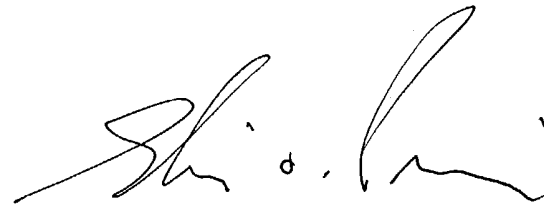
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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elvis O. Price whose telephone number is 703 605-1204. The examiner can normally be reached on 8:30 am to 5:00 pm; Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on 703 308-4532. The fax phone numbers for the organization where this application or proceeding is assigned is 703 308-4556 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-1235.



Elvis O. Price  
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October 29, 2004